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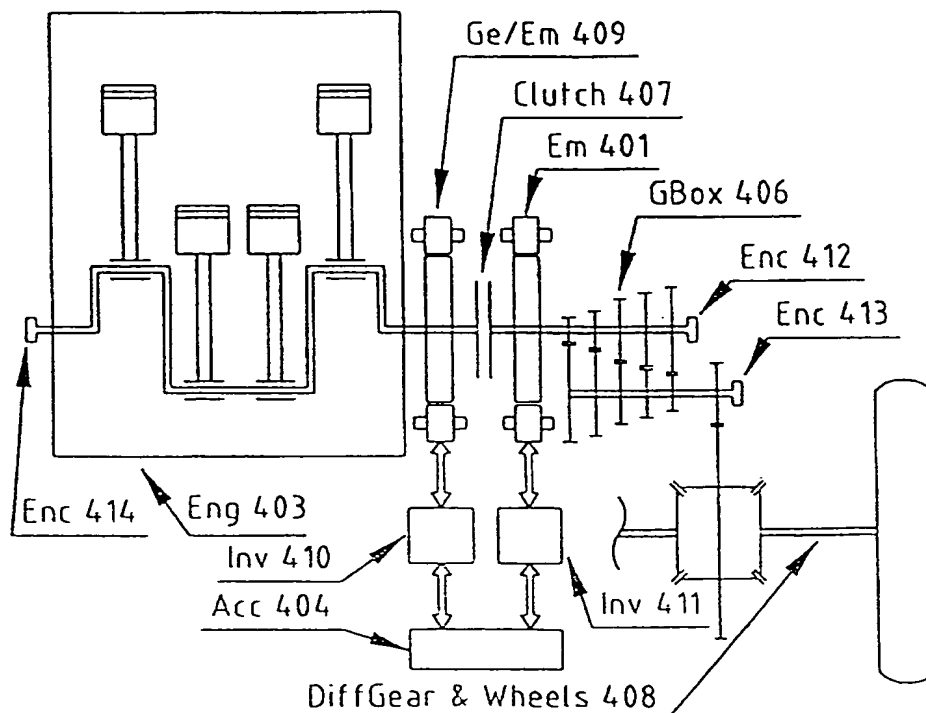
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(54) Title: A HYBRID POWERTRAIN

(57) Abstract

A powertrain for a vehicle is of the combined serial and parallel hybrid type. It comprises a thermal engine (403), an electric generator/motor (409) mechanically coupled to the output shaft of the engine, a clutch (407) which can connect the two portions of the output shaft rigidly to each other, and an electric motor (401) mechanically connected to the distant portion of the output shaft. Both the generator/motor (409) and the electric motor (401) can be driven by the engine to charge an electric accumulator (404) and can receive electric power therefrom to provide extra torque to the output shaft. The output shaft of the engine drives the wheels of the vehicle through a differential. A mechanical gearbox (406) connects the output shaft to the differential and wheels (408). The use of



a gearbox and two electric motors significantly improves the total performance of the powertrain. In the powertrain standard components already used for driving vehicles can be used.